

INTERDISCIPLINE APPROACH UTILIZING ENZYME AND PROTEIN ELECTROPHORESIS.

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The evidence of proteins and nucleic acids by means of electrophoresis techniques is reliable and valuable for taxonomic, phylogenetic and genetic studies in plants, animals, microorganismos and vírus particles. This techniques aim at separation of molecules with basis on electrical charges, molecular weight and structural conformations in a porous and solid support and appropriate buffers, by influence of are continuos electrical field. The seeds constitute an excellent material for isoenzyme polimorphism analysis and usually are rich in proteins and high activity enzymes and secondary metabolite – free such as phenols and tanins. This work aim to use electrophoresis in penetrose gel as a didactic model in interdiscipline approach for understanding of chemical, genetic and functional aspects of related to proteins. Therefore, sterase and total protein of three kind of beans were electrophoretically separated. Previously, an explanation about the characteristics of the enzyme was done, such as: activity, biological importance and methods of revelation. After results were obtained, the electrophoretic profiles were compared between it self and the following aspects were discussed: number of bands, differences in molecular weight, relative mobilities, number of subunits, charge density, and genetic differentiation, and then an interdiscipline approach between biochemical and genetic concepts in regard to proteins was established.

Key words: electrophoresis, protein, sterase, interdiscipline-approach